

7th Annual SECA Workshop and Peer Review

September 12-14, 2006
Philadelphia, PA

SEPTEMBER 12th - Tuesday - Symphony Ballroom

7:00 a.m. Registration/Continental Breakfast - Symphony Ballroom Foyer

KEYNOTE SESSION

Moderator: *Wayne Surdoval*, U.S. Department of Energy
National Energy Technology Laboratory

8:00 a.m. Welcome
Wayne Surdoval, U.S. Department of Energy
National Energy Technology Laboratory

8:10 a.m. FutureGen Status
Joe Strakey, U.S. Department of Energy
National Energy Technology Laboratory

8:40 a.m. SECA Overview
Wayne Surdoval, U.S. Department of Energy
National Energy Technology Laboratory

9:40 a.m. Unmanned Underwater Vehicles
Louis G. Carreiro, U.S. Department of Defense
Naval Undersea Warfare Center

10:10 a.m. Break - Symphony Ballroom Foyer

SECA INDUSTRY TEAMS

Moderator: *Don Collins*, U.S. Department of Energy
National Energy Technology Laboratory



SEPTEMBER 12th - Tuesday - Symphony Ballroom (cont.)

- 10:30 a.m. *Nguyen Minh*, General Electric
- 11:15 a.m. *Dan Norrick*, Cummins Power Generation
- 12:00 p.m. Group Lunch - (paid participants only) Academy Café
- 1:00 p.m. *Jody Doyon*, FuelCell Energy
- 1:45 p.m. *Shailesh Vora*, Siemens Power Generation
- 2:30 p.m. Break - Symphony Ballroom Foyer
- 3:00 p.m. *Steve Shaffer*, Delphi
- 3:45 p.m. *Norm Bessette*, Acumentrics
- 4:30 p.m. Adjourn
- 5:30 p.m. Poster Session & Reception - Symphony Ballroom Foyer
(Food is for paid participants only)

SEPTEMBER 13th - Wednesday - Symphony Ballroom

SECA CORE PROGRAM – Electrodes and Contaminant Issues

Moderator: *Jeffrey Stevenson*, Pacific Northwest National Laboratory

- 7:00 a.m. Registration/Continental Breakfast - Symphony Ballroom Foyer
- 8:00 a.m. Cathode Workshop and Overview
Eric Wachsman, University of Florida
- 8:30 a.m. Cathode Infiltration
Steve Visco, Lawrence Berkeley National Laboratory
- 9:00 a.m. Cathode Infiltration
Ray Gorte, University of Pennsylvania
- 9:30 a.m. Cr Study Discussion
Mike Krumpelt, Argonne National Laboratory
- 10:00 a.m. Break - Symphony Ballroom Foyer

SEPTEMBER 13th - Wednesday - Symphony Ballroom (cont.)

- 10:30 a.m. Cathode Mechanism I
Stu Adler, University of Washington
- 11:00 a.m. Cathode Mechanism II
Yang Shao-Horn, Massachusetts Institute of Technology
- 11:30 a.m. Group Lunch - (paid participants only) Academy Café
- 1:00 p.m. Coal Contaminants
Gopala Krishnan, SRI International
- 1:30 p.m. Coal Contaminants
Meilin Liu, Georgia Institute of Technology

SECA CORE PROGRAM – Fuel Processing

Moderator: *Dave Berry*, U.S. Department of Energy
National Energy Technology Laboratory

- 2:00 p.m. Sulfur and Carbon Tolerant Reforming Alloy Catalysts
Suljo Linic, University of Michigan
- 2:30 p.m. Break - Symphony Ballroom Foyer
- 3:00 p.m. Liquid Fuel Processing
Dave Berry, U.S. Department of Energy
National Energy Technology Laboratory
- 3:30 p.m. Liquid Fuel Processing
Michael Mundschau, Eltron Research Inc.

SECA CORE PROGRAM – Modeling and Design

Moderator: *Lane Wilson*, U.S. Department of Energy
National Energy Technology Laboratory

- 4:00 p.m. Cell and Stack Modeling
Moe Khaleel, Pacific Northwest National Laboratory
- 4:30 p.m. Materials Characterization
Edgar Lara-Curzio, Oak Ridge National Laboratory
- 5:00 p.m. Adjourn

SEPTEMBER 14th - Thursday - Symphony Ballroom

SECA CORE PROGRAM – Interconnects

Moderator: *Lane Wilson*, U.S. Department of Energy
National Energy Technology Laboratory

7:00 a.m. Registration/Continental Breakfast - Symphony Ballroom Foyer

8:00 a.m. Interconnects and Coatings
Jeff Stevenson, Pacific Northwest National Laboratory

8:30 a.m. Interconnects
Paul Jablonski, U.S. Department of Energy
National Energy Technology Laboratory

9:00 a.m. Interconnects
Steve Visco, Lawrence Berkeley National Laboratory

9:30 a.m. Interconnect Manufacturing
Jim Rakowski, Allegheny Technologies

10:00 a.m. Break - Symphony Ballroom Foyer

SECA CORE PROGRAM – Seals

Moderator: *Prabhakar Singh*, Pacific Northwest National Laboratory

10:30 a.m. Soft Seals
Raj Singh, University of Cincinnati

11:00 a.m. Hard Seals
Jeff Stevenson, Pacific Northwest National Laboratory

11:30 a.m. Brazed Seals
Scott Weil, Pacific Northwest National Laboratory

12:00 p.m. Lunch and Adjourn
(Box Lunch for paid participants only) Overture Room

1:00 p.m. – 4:00 p.m. Complete Peer Review (Peer Reviewers Only)

2:30 p.m. Break - Symphony Ballroom Foyer

Poster Presenters

Continuous Process for Low Cost High-Quality YSZ Powder

Matthew M. Seabaugh, NexTech Materials, Ltd.

Intermediate Temperature SOFC Development

S. Elangovan, Ceramatec, Inc.

Tailoring Fe-Ni Base Alloys for Intermediate Temperature SOFC Interconnect Application

Jiahong Zhu, Tennessee Technological University

Oxidation Resistant, Cr-Retaining, Electrically Conductive Coatings on Metallic Alloys for SOFC Interconnects

Vladimir Gorokhovskiy, Arcomac Surface Engineering, LLC

Glass-Ceramic Seals for Solid Oxide Fuel Cells

Richard K. Brow, University of Missouri-Rolla

Effective Injection and Mixing System for a Diesel Fuel Processor

Spencer D. Pack, Turbine Fuel Technologies, Goodrich. Co.

Inverter Work

Jason Lai, Virginia Tech

Blowers

Giri Agrawal, R&D Dynamics Corp.

Low Cost High Temperature Heat Exchanger for SOFC's

Chris Wyant, Spinworks, LLC

PNNL HiTEC Work

Larry Pederson, Pacific Northwest National Laboratory

High Temperature Electrochemistry Center Research

Lee H. Spangler, Montana State University

SOFC Cathode Research at the UF-U.S. Department of Energy High Temperature Electrochemistry Center

Eric Wachsman, University of Florida

University of Florida – U.S. Department of Energy High Temperature Electrochemistry Center

Eric Wachsman, University of Florida

Poster Presenters (cont.)

Use of High Temperature Electrochemical Cells for Co-Generation of Chemicals and Electricity

Scott Barnett, Northwestern University

Techno-Economic Analysis of SOFC-TE Hybrid Power Generation Systems

Jifeng Zhang, United Technologies Research Center

A High Temperature Electrochemical Energy Storage System Based on Sodium Beta-Alumina Solid Electrolyte (BASE)

Anil V. Virkar, University of Utah

High Temperature Photonic Sensors for SOFCs: Instrumentation for Enhanced Performance

Kelly Stinson-Bagby and Russell May, Prime Research, LC

Impact of Scale-Up and Manufacturing Volume on SOFC Cost

Jan Thijssen, J. Thijssen, LLC

Sorbents for Fuel Desulfurization for Fuel Cell Applications

Gokhan Alptekin, TDA Research, Inc.

Evolution of Nickel Microstructure During Methane Reforming over Ni-YSZ Anodes

James J. Strohm, Pacific Northwest National Laboratory



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